April 11, 1951.

Dr. W.H. Ewing,
Enteric bacteriology laboratories,
Communicable Disease Center, PHS,
Chamblee, Georgia.

Dear Dr. Ewing:

Thank you very much for the serological typingsof our strains of "E. coli", our nos. Wg-1 through WG-10, your 1105- through 1114-51. I am sorry to have delayed so long in response to your request for further biochemical information, but there were a few points which needed checking. I am sorry to say that we had not been carrying out the standard sort of determination (IMVC) so far, so that our data may be of limited value, for taxonomic purposes.

All 10 strains promptly ferment maltose, xylose, galactose, mannitol, L-arabinose, glucose and rhamnose, but are cellobiose-negative. WG-9 is lactose-negative, (or delayed pedding selection of Lac+ mutants); WG-8 shows a slow (2-3 days) fermentation of lactose; the others all ferment lactose promptly with acid and gas. Sucrose is fermented by WG-2, -6, -8, and -10, and very slowly or not at all by the others. All except -6 are indole-positive. -6, -5, and -8 (which you recorded as serologically unrelated to coli group) are citrate-positive [score several points!!]; the others negative. All 10 are auxo-autotrophic (on glucose agar). WG-1 is sensitive to the coliphages T1-T7. The others are essentially resistant to each of them, except WG-10 (T1;T5-sensitive) All of the strains are of fecal or urinary origin, all human except Wg-2 (chickens). WG-2, -9, and -10 produces colicins active especially against -1. I believe that all of these can be crossed with K-12, but will undertake to verify this again especially for those whose identification as E. coli is perhaps doubtful.

I should welcome your counsel as to the taxonomic placement of these cultures. When all of our strains have been collected, I hope to do a more careful comparative study. Meantime, your serological determinations are very helpful indeed for planning our further work.

We are turning up a few more cultures from time to time from the same work as these 10. Could we impose upon you for similar determinations on these? We have 6 or 8 on hand now, but can wait to reach a number which would provide the most convenient package for your routine.

With sincere appreciations,

Joshua Lederberg,
Associate Professor of Genetics